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JC17 Rec'd PCT/PTO 14 JUN 2005Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Please cancel claims 1-9.

10. (New) A method of producing a P(phosphorus)-doped silicon single crystal by Czochralski method, wherein, at least, a growth of the single crystal is performed so that an Al (aluminum) concentration is  $2 \times 10^{12}$  atoms/cc or more.

11. (New) The method of producing a P-doped silicon single crystal according to Claim 10, wherein the growth of the single crystal is performed so that a P concentration is  $1 \times 10^{14}$  atoms/cc or more in the silicon single crystal.

12. (New) The method of producing a P-doped silicon single crystal according to Claim 10, wherein in the growth of the single crystal, it is pulled so that a value of F/G ( $\text{mm}^2/\text{^\circ C} \cdot \text{min}$ ) is a value of 0.2 or less, where F (mm/min) is the pulling rate and G ( $^\circ \text{C}/\text{mm}$ ) is an average value of a temperature gradient in the crystal along a pulling axis from the melting point of silicon to 1400 $^\circ \text{C}$ .

13. (New) The method of producing a P-doped silicon single crystal according to Claim 11, wherein in the growth of the single crystal, it is pulled so that a value of F/G ( $\text{mm}^2/\text{^\circ C} \cdot \text{min}$ ) is a value of 0.2 or less, where F (mm/min) is the pulling rate and G ( $^\circ \text{C}/\text{mm}$ ) is an average value of a temperature gradient in the crystal along a pulling axis from the melting point of silicon to 1400 $^\circ \text{C}$ .

14. (New) The method of producing a P-doped silicon single crystal according to Claim 10, wherein the crystal growth is performed in the range of N region and I region.
15. (New) The method of producing a P-doped silicon single crystal according to Claim 11, wherein the crystal growth is performed in the range of N region and I region.
16. (New) The method of producing a P-doped silicon single crystal according to Claim 12, wherein the crystal growth is performed in the range of N region and I region.
17. (New) The method of producing a P-doped silicon single crystal according to Claim 13, wherein the crystal growth is performed in the range of N region and I region.
18. (New) A P-doped silicon single crystal produced by the method according to Claim 10.
19. (New) A P-doped silicon single crystal produced by the method according to Claim 11.
20. (New) A P-doped silicon single crystal produced by the method according to Claim 12.
21. (New) A P-doped silicon single crystal produced by the method according to Claim 13.
22. (New) A P-doped silicon single crystal produced by the method according to Claim 14.
23. (New) A P-doped silicon single crystal produced by the method according to Claim 15.

24. (New) A P-doped silicon single crystal produced by the method according to Claim 16.
25. (New) A P-doped silicon single crystal produced by the method according to Claim 17.
26. (New) A silicon wafer which is sliced from the P-doped silicon single crystal according to Claim 18.
27. (New) A silicon wafer which is sliced from the P-doped silicon single crystal according to Claim 19.
28. (New) A silicon wafer which is sliced from the P-doped silicon single crystal according to Claim 20.
29. (New) A silicon wafer which is sliced from the P-doped silicon single crystal according to Claim 21.
30. (New) A silicon wafer which is sliced from the P-doped silicon single crystal according to Claim 22.
31. (New) A silicon wafer which is sliced from the P-doped silicon single crystal according to Claim 23.
32. (New) A silicon wafer which is sliced from the P-doped silicon single crystal according to Claim 24.
33. (New) A silicon wafer which is sliced from the P-doped silicon single crystal according to Claim 25.

34. (New) A P(phosphorus)-doped N-type silicon single crystal wafer wherein at least an Al (aluminum) concentration is  $2 \times 10^{12}$  atoms/cc or more.

35. (New) The P-doped N-type silicon single crystal wafer according to Claim 34 wherein a P concentration in the wafer is  $1 \times 10^{14}$  atoms/cc or more.

36. (New) The P-doped N-type silicon single crystal wafer according to Claim 34, wherein the wafer is that the whole plane of the wafer is N region and/or I region.

37. (New) The P-doped N-type silicon single crystal wafer according to Claim 35, wherein the wafer is that the whole plane of the wafer is N region and/or I region.